

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) An extended polycrystalline superconductor, e.g. a superconducting tape, wire, or foil, characterized by
 - at least two substrates,
 - each said substrate having deposited thereon a superconducting layer, preferably on a buffer layer on said substrate, the average length of the grains in at least one superconducting layer exceeding their average width by at least a factor of 1.5, and
 - an extensive superconducting contact established between the surfaces of said superconducting layers and extending over at least a fraction of $f = 0.3$ of the length and width of said superconductor.
2. (Canceled)
3. (Previously Presented) The superconductor according to claim 1, wherein the superconductor comprises at least two superconducting layers deposited on opposing sides of at least one substrate.
4. (Previously Presented) The superconductor according to claim 1, wherein the superconductor is rolled, folded or twisted such that the surface(s) of the superconducting layer(s) provide the desired extensive superconducting contact.
5. (Previously Presented) The superconductor according to claim 1, wherein the superconducting layers in contact are of preferably different lengths or widths and said contact extends at least over a fraction of about $f = 0.5$ of the length and width of one of said superconducting layers.
- 6-8. (Canceled)
9. (Currently Amended) The superconductor according to claim 1, wherein

at least one of the superconducting layers consists of a heterostructure, said heterostructure preferably including a doping film.

10. (Canceled)

11. (Currently Amended) The superconductor according to claim 1, wherein the superconducting contact is established by pressing and/or sintering and/or soldering and/or welding the superconducting layers together ~~with mechanical means.~~

12-14. (Canceled)

15. (Currently Amended) The superconductor according to claim ~~[11]~~ 1, wherein the superconducting contact is established by providing an intermediate layer, particularly an intermediate layer deposited onto at least one of the superconducting layers, said intermediate layer preferably comprising a powder.

16-20. (Canceled)

21. (Currently Amended) The superconductor according to claim ~~[20]~~ 1, wherein metallic substrates are provided, the superconducting compound of the $\text{ReBa}_2\text{Cu}_3\text{O}_{7-\delta}$ family is deposited on both sides of said substrates, preferably onto buffer layers, and said at least two of these substrates carrying superconducting layers are mounted on top of each other over at least a third of their length or width.

22-25. (Canceled)

26. (New) An extended polycrystalline superconductor, e.g. a superconducting tape, wire, or foil, characterized by at least two substrates,

each said substrate having deposited thereon a superconducting layer, preferably on a buffer layer on said substrate, wherein at least one of the superconducting layers consists of a heterostructure, the heterostructure including at least one doping film, and

an extensive superconducting contact established between the surfaces of said superconducting layers and extending over at least a fraction of $f = 0.3$ of the length and width of said superconductor.

27. (New) The superconductor according to claim 26, wherein the superconductor comprises at least two superconducting layers deposited on opposing sides of at least one substrate.

28. (New) The superconductor according to claim 26, wherein the superconductor is rolled, folded or twisted such that the surface(s) of the superconducting layer(s) provide the desired extensive superconducting contact.

29. (New) The superconductor according to claim 26, wherein the superconducting layers in contact are of preferably different lengths or widths and said contact extends at least over a fraction of about $f = 0.5$ of the length and width of one of said superconducting layers.

30. (New) The superconductor according to claim 26, wherein the average length of the grains in at least one superconducting layer exceeds their average width by at least a factor of 1.5.

31. (New) The superconductor according to claim 26, wherein the superconducting contact is established by pressing and/or sintering and/or soldering and/or welding the superconducting layers together.

32. (New) The superconductor according to claim 26, wherein

the superconducting contact is established by providing an intermediate layer, particularly an intermediate layer deposited onto at least one of the superconducting layers, said intermediate layer preferably comprising a powder.

33. (New) The superconductor according to claim 26, wherein
metallic substrates are provided,
the superconducting compound of the $\text{ReBa}_2\text{Cu}_3\text{O}_{7-\delta}$ family is deposited on both sides of said substrates, preferably onto buffer layers, and
said at least two of these substrates carrying superconducting layers are mounted on top of each other over at least a third of their length or width.

34. (New) An extended polycrystalline superconductor, e.g. a superconducting tape, wire, or foil,
characterized by

at least two metallic substrates,
each said substrate having deposited on both sides thereon a superconducting layer, preferably on a buffer layer on said substrate, at least one of the compounds in said superconducting layer belonging to the $\text{ReBa}_2\text{Cu}_3\text{O}_{7-\delta}$ family, Re being a rare earth including La or Y, and

an extensive superconducting contact established between the surfaces of said superconducting layers and extending over at least a fraction of $f = 0.3$ of the length and width of said superconductor by mounting said substrates on top of each other over at least a third of their length or width.

35. (New) The superconductor according to claim 34, wherein
the superconductor comprises at least two superconducting layers deposited on opposing sides of at least one substrate.

36. (New) The superconductor according to claim 34, wherein
the superconductor is rolled, folded or twisted such that the surface(s) of the superconducting layer(s) provide the desired extensive superconducting contact.

37. (New) The superconductor according to claim 34, wherein the superconducting layers in contact are of preferably different lengths or widths and said contact extends at least over a fraction of about $f = 0.5$ of the length and width of one of said superconducting layers.

38. (New) The superconductor according to claim 34, wherein at least one of the superconducting layers consists of a heterostructure, said heterostructure preferably including a doping film.

39. (New) The superconductor according to claim 34, wherein the superconducting contact is established by pressing and/or sintering and/or soldering and/or welding the superconducting layers together.

40. (New) The superconductor according to claim 34, wherein the superconducting contact is established by providing an intermediate layer, particularly an intermediate layer deposited onto at least one of the superconducting layers, said intermediate layer preferably comprising a powder.

41. (New) The superconductor according to claim 34, wherein at least one superconducting layer is separated into pieces before establishing the superconducting contact.